36.1 [p.1001]

$\lambda = 0.122 \cdot 10^{-9}$ m

$\theta = 45.0^\circ$

$d = 0.252 \cdot 10^{-9}$ m

Bragg's law (36-34): $2d \sin\theta = m\lambda$, $m = 1, 2, 3, \ldots$

Maxima when

$0^\circ < \theta_m = \arcsin\left(\frac{m\lambda}{2d}\right) =$

14.00°	$m = 1$	$< 90^\circ$
29.00°	$m = 2$	
46.57°	$m = 3$	
75.52°	$m = 4$	

a) och b) "crystal turned clockwise"

$45.0^\circ - 14.00^\circ = 31.0^\circ \rightarrow$ "large" b) 31.0° ↷

$45.0 - 29.00^\circ = 16.0^\circ \rightarrow$ "small" a) 16.0° ↷

c) och d) "counterclockwise" ↶

$46.57^\circ - 45.0^\circ = 1.57^\circ \rightarrow$ "small" c) 1.57° ↶

$75.52^\circ - 45.0^\circ = 30.52^\circ \rightarrow$ "large" d) 30.5° ↶

ex. på figur: